

Attachment C
Work Care Information

EARLY INCIDENT INTERVENTION[®]

Immediate Access to Medical Advice for Work Related Incidents

(888) 449-7787

INTRODUCTION

WorkCare, Inc. (WorkCare) and TRC have partnered together to promote Incident Intervention[®], a resource designed to support company safety goals/targets—while reducing runaway-costs associated with workplace injuries and illnesses.

PURPOSE

Early Incident Intervention provides TRC employees with **IMMEDIATE** telephonic access to WorkCare clinicians at the time of a presumed, non-emergency workplace injury or illness. Clinicians provide expert guidance on the evaluation of symptoms, appropriate first aid, and the need for additional medical evaluation or treatment.

When utilizing this service within the first hour of an incident, known as the “Golden Hour,” licensed medical staff can guide the case so that medical evaluation and treatment are rendered appropriately.

*“...helps the worker
traverse the unpredictable
terrain of work-related
injuries and illness.”*

PRINCIPLES OF EARLY INCIDENT INTERVENTION

- Utilizes principles of the “Golden Hour.”
- Provides workers immediate clinician support at the time of an incident.
- Focuses on providing the right care, at the right time in the proper setting.

BENEFITS FOR EMPLOYEES

- Instant access to a medically qualified professional for evaluation of symptoms and possible outcomes.
- Professional guidance on appropriate first aid measures and medications.
- Professional advice regarding the need for additional medical evaluation or treatment.

BENEFITS FOR TRC

- Point of contact for emergency and non-emergency medical clinicians.
- Triage the incident to determine risk and urgency, delivering interventions that are consistent with medical guidelines for the specified injury and illness.
- Maintains communication with clinicians to ensure accurate and timely reporting.

Attachment D
Emergency Contact Information

ATTACHMENT D
EMERGENCY CONTACT INFORMATION

Name	Role	Phone Number
John Spellman, NYSDEC	NYSDEC, Project Manager	(518)-402-9686
Ken Siet, TRC	TRC Vice President	(908) 988-1676
Kenneth Robbins, TRC	TRC Project Manager	(908) 988-1677 Cell: (973) 271-3933
Ryan Jorrey, TRC	TRC Office Safety Coordinator	(518) 688-3102 Cell: (315) 868-4440
Elizabeth Denly, TRC	TRC Quality Assurance Officer	(978) 970-5600
Daniel Warren	TRC Project Scientist	(860) 298-6378 Cell: (917) 232-9837
Jannell Franklin, Test America	Laboratory Services	(732) 593-2551

Attachment E
Safety Data Sheets for Potential Contaminants of Concern

SAFETY DATA SHEET

Creation Date 22-Sep-2009

Revision Date 25-Apr-2019

Revision Number 6

1. Identification

Product Name Arsenic, reference standard solution 1000 ppm in 7% nitric acid

Cat No. : SA449-100, SA449-500

Synonyms No information available

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) Identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Corrosive to metals	Category 1
Skin Corrosion/Irritation	Category 1 A
Serious Eye Damage/Eye Irritation	Category 1
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

Label Elements

Signal Word

Danger

Hazard Statements

May be corrosive to metals
Causes severe skin burns and eye damage
May cause respiratory irritation
May cause cancer



Precautionary Statements

Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Keep only in original container

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Spills

Absorb spillage to prevent material damage

Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed
Store in corrosive resistant polypropylene container with a resistant inliner
Store in a dry place

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Harmful to aquatic life with long lasting effects

WARNING. Cancer and Reproductive Harm - <https://www.p65warnings.ca.gov/>.

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Water	7732-18-5	92 - 93
Nitric acid	7697-37-2	7
Arsenic trioxide	1327-53-3	< 0.5

4. First-aid measures

General Advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Remove and wash

	contaminated clothing before re-use. Call a physician immediately.
Inhalation	If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove from exposure, lie down. Call a physician immediately.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Clean mouth with water. Call a physician immediately.
Most important symptoms and effects	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	CO ₂ , dry chemical, dry sand, alcohol-resistant foam.
Unsuitable Extinguishing Media	No information available
Flash Point	Not applicable
Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

Hazardous Combustion Products

Nitrogen oxides (NO_x) Thermal decomposition can lead to release of irritating gases and vapors

Protective Equipment and Precautions for Firefighters

Thermal decomposition can lead to release of irritating gases and vapors. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
4	0	0	N/A

6. Accidental release measures

Personal Precautions	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Environmental Precautions	Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling	Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Do not ingest.
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Storage

Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Do not store in metal containers.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Nitric acid	TWA: 2 ppm STEL: 4 ppm	(Vacated) TWA: 2 ppm (Vacated) TWA: 5 mg/m ³ (Vacated) STEL: 4 ppm (Vacated) STEL: 10 mg/m ³ TWA: 2 ppm TWA: 5 mg/m ³	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m ³ STEL: 4 ppm STEL: 10 mg/m ³	TWA: 2 ppm STEL: 4 ppm
Arsenic trioxide	TWA: 0.01 mg/m ³		IDLH: 5 mg/m ³ Ceiling: 0.002 mg/m ³	TWA: 0.01 mg/m ³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection

Tightly fitting safety goggles. Face-shield.

Skin and body protection

Long sleeved clothing.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Keep away from food, drink and animal feeding stuffs. When using, do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	Odorless
Odor Threshold	No information available
pH	2.0
Melting Point/Range	0 °C / 32 °F
Boiling Point/Range	100 °C / 212 °F
Flash Point	Not applicable
Evaporation Rate	> 1 (ether = 1)
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	14 mmHg @ 20 °C

Vapor Density	0.7 (Air = 1.0)
Specific Gravity	No information available
Solubility	miscible
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available

10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Excess heat. Exposure to air or moisture over prolonged periods.
Incompatible Materials	Strong bases, Amines, Strong reducing agents, Metals
Hazardous Decomposition Products	Nitrogen oxides (NOx), Thermal decomposition can lead to release of irritating gases and vapors
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Oral LD50

Category 4. ATE = 300 - 2000 mg/kg. Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Dermal LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Vapor LC50

Category 2. ATE = 0.5 - 2 mg/l. Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	Not listed	Not listed
Nitric acid	Not listed	Not listed	LC50 = 2500 ppm. (Rat) 1h
Arsenic trioxide	LD50 = 20 mg/kg (Rat)	Not listed	Not listed

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Causes burns by all exposure routes

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed
Nitric acid	7697-37-2	Not listed	Not listed	Not listed	Not listed	Not listed
Arsenic trioxide	1327-53-3	Group 1	Known	A1	X	A1

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

NTP: (National Toxicity Program)

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)
Mexico - Occupational Exposure Limits - Carcinogens
A1 - Confirmed Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
A4 - Not Classifiable as a Human Carcinogen
A5 - Not Suspected as a Human Carcinogen

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Nitric acid	Not listed	LC50: = 72 mg/L, 96h (Gambusia affinis)	Not listed	Not listed
Arsenic trioxide	Not listed	LC50: > 1000 mg/L, 96h static (Oncorhynchus mykiss) LC50: 18.8 - 21.4 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 135 mg/L, 96h (Pimephales promelas)	EC50 = 31.43 mg/L 60 min EC50 = 33.39 mg/L 30 min EC50 = 43.56 mg/L 15 min EC50 = 73.73 mg/L 5 min	EC50 = 0.038 mg/L 24h EC50 = 0.96 mg/L 96h EC50 = 0.038 mg/L 24h

Persistence and Degradability Miscible with water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Nitric acid	-2.3
Arsenic trioxide	18.1

13. Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN2031
Proper Shipping Name NITRIC ACID
Hazard Class 8
Subsidiary Hazard Class 5.1
Packing Group II

TDG

UN-No UN2031
Proper Shipping Name NITRIC ACID
Hazard Class 8
Packing Group II

IATA

UN-No UN2031
Proper Shipping Name NITRIC ACID
Hazard Class 8
Packing Group II

IMDG/IMO

UN-No UN2031
Proper Shipping Name NITRIC ACID
Hazard Class 8
Packing Group II

15. Regulatory information

United States of America Inventory

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
Water	7732-18-5	X	ACTIVE	-
Nitric acid	7697-37-2	X	ACTIVE	-
Arsenic trioxide	1327-53-3	X	ACTIVE	-

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Water	7732-18-5	X	-	231-791-2	X	-	X	X	KE-35400
Nitric acid	7697-37-2	X	-	231-714-2	X	X	X	X	KE-25911
Arsenic trioxide	1327-53-3	X	-	215-481-4	X	X	X	X	KE-09858

U.S. Federal Regulations

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
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Arsenic, reference standard solution 1000 ppm in 7% nitric acid

Revision Date 25-Apr-2019

Nitric acid	7697-37-2	7	1.0
Arsenic trioxide	1327-53-3	< 0.5	0.1

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Nitric acid	X	1000 lb	-	-
Arsenic trioxide	X	1 lb	X	-

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Arsenic trioxide	X		-

OSHA - Occupational Safety and Health Administration Not applicable

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Nitric acid	-	TQ: 500 lb
Arsenic trioxide	10 µg/m³ TWA 5 µg/m³ Action Level	-

CERCLA Not applicable

Component	Hazardous Substances RQs	CERCLA EHS RQs
Nitric acid	1000 lb	1000 lb
Arsenic trioxide	1 lb	1 lb

California Proposition 65 This product does not contain any Proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Arsenic trioxide	1327-53-3	Carcinogen Developmental	0.06 µg/day 10 µg/day	Developmental Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Water	-	-	X	-	-
Nitric acid	X	X	X	X	X
Arsenic trioxide	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product contains the following DHS chemicals:
Legend - STQs = Screening Threshold Quantities, APA = A placarded amount

Component	DHS Chemical Facility Anti-Terrorism Standard
Nitric acid	Release STQs - 15000lb Theft STQs - 400lb

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By Regulatory Affairs

Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 22-Sep-2009

Revision Date 25-Apr-2019

Print Date 25-Apr-2019

Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS



Polycyclic Aromatic Hydrocarbons Standard Mixture

High-Purity Standards

Catalogue number: PAH-HM16C

Version No: 1.1

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 06/05/2017

Print Date: 06/05/2017

S.GHS USA EN

SECTION 1 IDENTIFICATION

Product Identifier

Product name	Polycyclic Aromatic Hydrocarbons Standard Mixture
Synonyms	PAH-HM16C
Proper shipping name	Dichloromethane
Other means of identification	PAH-HM16C

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	High-Purity Standards
Address	PO Box 41727 SC 29423 United States
Telephone	843-767-7900
Fax	843-767-7906
Website	highpuritystandards.com
Email	Not Available

Emergency phone number

Association / Organisation	INFOTRAC
Emergency telephone numbers	1-800-535-5053
Other emergency telephone numbers	1-352-323-3500

SECTION 2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

Classification	Carcinogenicity Category 1B, Skin Sensitizer Category 1, Germ cell mutagenicity Category 1B, Reproductive Toxicity Category 1B, Acute Aquatic Hazard Category 1, Chronic Aquatic Hazard Category 1
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Label elements

Hazard pictogram(s)	
SIGNAL WORD	DANGER

Hazard statement(s)

H350	May cause cancer.
H317	May cause an allergic skin reaction.
H340	May cause genetic defects.
H360	May damage fertility or the unborn child.
H410	Very toxic to aquatic life with long lasting effects.

Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

Hazard(s) not otherwise specified

Not Applicable

Precautionary statement(s) Prevention

P201 Obtain special instructions before use.

Precautionary statement(s) Response

P308+P313 IF exposed or concerned: Get medical advice/attention.

Precautionary statement(s) Storage

P405 Store locked up.

Precautionary statement(s) Disposal

P501 Dispose of contents/container in accordance with local regulations.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
75-09-2	balance	<u>methylene chloride</u>
83-32-9	0.2	<u>acenaphthene</u>
208-96-8	0.2	<u>acenaphthylene</u>
120-12-7	0.2	<u>anthracene</u>
56-55-3	0.2	<u>benz[a]anthracene</u>
50-32-8	0.2	<u>benz[a]pyrene</u>
205-99-2	0.2	<u>benzo[b]fluoranthene</u>
191-24-2	0.2	<u>benzo[ghi]perylene</u>
207-08-9	0.2	<u>benzo[k]fluoranthene</u>
218-01-9	0.2	<u>chrysene</u>
53-70-3	0.2	<u>dibenz[a,h]anthracene</u>
206-44-0	0.2	<u>fluoranthene</u>
86-73-7	0.2	<u>fluorene</u>
193-39-5	0.2	<u>indeno[1,2,3-cd]pyrene</u>
91-20-3	0.2	<u>naphthalene</u>
85-01-8	0.2	<u>phenanthrene</u>
129-00-0	0.2	<u>pyrene</u>

SECTION 4 FIRST-AID MEASURES

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none">Wash out immediately with fresh running water.Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.Seek medical attention without delay; if pain persists or recurs seek medical attention.Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none">Immediately remove all contaminated clothing, including footwear.Flush skin and hair with running water (and soap if available).Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">If fumes or combustion products are inhaled remove from contaminated area.Lay patient down. Keep warm and rested.Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.Transport to hospital, or doctor.
Ingestion	<ul style="list-style-type: none">If swallowed do NOT induce vomiting.If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.Observe the patient carefully.Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.Seek medical advice.

Most important symptoms and effects, both acute and delayed

Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

See Section 11

Indication of any immediate medical attention and special treatment needed

for naphthalene intoxication: Naphthalene requires hepatic and microsomal activation prior to the production of toxic effects. Liver microsomes catalyse the initial synthesis of the reactive 1,2-epoxide intermediate which is subsequently oxidised to naphthalene dihydrodiol and alpha-naphthol. The 2-naphthoquinones are thought to produce haemolysis, the 1,2-naphthoquinones are thought to be responsible for producing cataracts in rabbits, and the glutathione-adducts of naphthalene-1,2-oxide are probably responsible for pulmonary toxicity. Suggested treatment regime:

- Induce emesis and/or perform gastric lavage with large amounts of warm water where oral poisoning is suspected.
- Instill a saline cathartic such as magnesium or sodium sulfate in water (15 to 30g).
- Demulcents such as milk, egg white, gelatin, or other protein solutions may be useful after the stomach is emptied but oils should be avoided because they promote absorption.
- If eyes/skin contaminated, flush with warm water followed by the application of a bland ointment.
- Severe anaemia, due to haemolysis, may require small repeated blood transfusions, preferably with red cells from a non-sensitive individual.
- Where intravascular haemolysis, with haemoglobinuria occurs, protect the kidneys by promoting a brisk flow of dilute urine with, for example, an osmotic diuretic such as mannitol. It may be useful to alkalise the urine with small amounts of sodium bicarbonate but many researchers doubt whether this prevents blockage of the renal tubules.
- Use supportive measures in the case of acute renal failure. GOSSELIN, SMITH HODGE: Clinical Toxicology of Commercial Products, 5th Ed.

SECTION 5 FIRE-FIGHTING MEASURES

Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none"> ➤ Alert Fire Brigade and tell them location and nature of hazard. ➤ Wear breathing apparatus plus protective gloves in the event of a fire. ➤ Prevent, by any means available, spillage from entering drains or water courses. ➤ Use fire fighting procedures suitable for surrounding area. ➤ DO NOT approach containers suspected to be hot. ➤ Cool fire exposed containers with water spray from a protected location. ➤ If safe to do so, remove containers from path of fire. ➤ Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ➤ Non combustible. ➤ Not considered a significant fire risk, however containers may burn. <p>May emit poisonous fumes.</p>

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> ➤ Clean up all spills immediately. ➤ Avoid breathing vapours and contact with skin and eyes. ➤ Control personal contact with the substance, by using protective equipment. ➤ Contain and absorb spill with sand, earth, inert material or vermiculite. ➤ Wipe up. ➤ Place in a suitable, labelled container for waste disposal.
Major Spills	<ul style="list-style-type: none"> ➤ Clear area of personnel and move upwind. ➤ Alert Fire Brigade and tell them location and nature of hazard. ➤ Wear full body protective clothing with breathing apparatus. ➤ Prevent, by all means available, spillage from entering drains or water courses. ➤ Consider evacuation (or protect in place). ➤ No smoking, naked lights or ignition sources. ➤ Increase ventilation. ➤ Stop leak if safe to do so. ➤ Water spray or fog may be used to disperse / absorb vapour. ➤ Contain or absorb spill with sand, earth or vermiculite. ➤ Collect recoverable product into labelled containers for recycling. ➤ Collect solid residues and seal in labelled drums for disposal. ➤ Wash area and prevent runoff into drains. ➤ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. ➤ If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> ➤ Avoid all personal contact, including inhalation. ➤ Wear protective clothing when risk of exposure occurs.
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Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

	<ul style="list-style-type: none"> Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. DO NOT allow material to contact humans, exposed food or food utensils. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. DO NOT allow clothing wet with material to stay in contact with skin
Other information	<ul style="list-style-type: none"> Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> Lined metal can, lined metal pail/ can. Plastic pail. Polyliner drum. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks. <p>For low viscosity materials</p> <ul style="list-style-type: none"> Drums and jerricans must be of the non-removable head type. Where a can is to be used as an inner package, the can must have a screwed enclosure. <p>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</p> <ul style="list-style-type: none"> Removable head packaging; Cans with friction closures and low pressure tubes and cartridges <p>may be used.</p> <p>Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages *.</p> <p>In addition, where inner packagings are glass and contain liquids of packing group I and II there must be sufficient inert absorbent to absorb any spillage *.</p> <p>* unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.</p>
Storage incompatibility	None known

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Levels (PELs) - Table Z1	methylene chloride	Methylene chloride	50 ppm	Not Available	Not Available	See Table Z-2
US OSHA Permissible Exposure Levels (PELs) - Table Z2	methylene chloride	Methylene Chloride	Not Available	Not Available	Not Available	See 1919.52.
US NIOSH Recommended Exposure Limits (RELs)	methylene chloride	Dichloromethane, Methylene dichloride	Not Available	Not Available	Not Available	Ca See Appendix A
US ACGIH Threshold Limit Values (TLV)	methylene chloride	Dichloromethane	Not Available	Not Available	Not Available	TLV® Basis: COHb-emia; CNS impair; BEI
US ACGIH Threshold Limit Values (TLV)	benz[a]anthracene	Benz[a]anthracene	Not Available	Not Available	Not Available	TLV® Basis: Skin cancer; BEIP
US ACGIH Threshold Limit Values (TLV)	benz[a]pyrene	Benzo[a]pyrene	Not Available	Not Available	Not Available	TLV® Basis: Cancer; BEIp
US ACGIH Threshold Limit Values (TLV)	benzo[b]fluoranthene	Benzo[b]fluoranthene	Not Available	Not Available	Not Available	TLV® Basis: Cancer; BEIp
US ACGIH Threshold Limit Values (TLV)	chrysene	Chrysene	Not Available	Not Available	Not Available	TLV® Basis: Cancer; BEIp
US OSHA Permissible Exposure Levels (PELs) - Table Z1	naphthalene	Naphthalene	50 mg/m3 / 10 ppm	75 mg/m3 / 15 ppm	Not Available	TLV® Basis: URT irr; cataracts; hemolytic anemia
US NIOSH Recommended Exposure Limits (RELs)	naphthalene	Naphthalin, Tar camphor, White tar	50 mg/m3 / 10 ppm	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	naphthalene	Naphthalene	10 ppm	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
methylene chloride	Methylene chloride; (Dichloromethane)	Not Available	Not Available	Not Available
acenaphthene	Acenaphthene	3.6 mg/m3	40 mg/m3	240 mg/m3
acenaphthylene	Acenaphthylene	10 mg/m3	110 mg/m3	660 mg/m3
anthracene	Anthracene	48 mg/m3	530 mg/m3	3,200 mg/m3
benz[a]anthracene	Benzo(a)anthracene	1.2 mg/m3	13 mg/m3	79 mg/m3
benz[a]pyrene	Benzo(a)pyrene; (Coal tar pitch volatiles)	0.6 mg/m3	120 mg/m3	700 mg/m3
benzo[b]fluoranthene	Benzo(b)fluoranthene; (Benzo(b)fluoroanthene)	0.12 mg/m3	1.3 mg/m3	7.9 mg/m3
benzo[ghi]perylene	Benzo(ghi)perylene	30 mg/m3	330 mg/m3	2,000 mg/m3
chrysene	Chrysene	0.6 mg/m3	12 mg/m3	69 mg/m3
dibenz[a,h]anthracene	Dibenz(a,h)anthracene	0.093 mg/m3	1 mg/m3	2.9 mg/m3
fluoranthene	Fluoranthene	4.1 mg/m3	45 mg/m3	400 mg/m3
fluorene	Fluorene, 9H-	6.6 mg/m3	72 mg/m3	430 mg/m3
indeno[1,2,3-cd]pyrene	Indeno(1,2,3-cd)pyrene	1.2 mg/m3	13 mg/m3	79 mg/m3
naphthalene	Naphthalene	15 ppm	83 ppm	500 ppm
phenanthrene	Phenanthrene	2.1 mg/m3	23 mg/m3	360 mg/m3
pyrene	Pyrene	0.15 mg/m3	1.7 mg/m3	7.5 mg/m3

Ingredient	Original IDLH	Revised IDLH
methylene chloride	10,000 ppm	2,000 ppm
acenaphthene	Not Available	Not Available
acenaphthylene	Not Available	Not Available
anthracene	Not Available	Not Available
benz[a]anthracene	Not Available	Not Available
benz[a]pyrene	Not Available	Not Available
benzo[b]fluoranthene	Not Available	Not Available
benzo[ghi]perylene	Not Available	Not Available
benzo[k]fluoranthene	Not Available	Not Available
chrysene	Not Available	Not Available
dibenz[a,h]anthracene	Not Available	Not Available
fluoranthene	Not Available	Not Available
fluorene	Not Available	Not Available
indeno[1,2,3-cd]pyrene	Not Available	Not Available
naphthalene	500 ppm	250 ppm
phenanthrene	Not Available	Not Available
pyrene	Not Available	Not Available

Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

- Employees exposed to confirmed human carcinogens should be authorized to do so by the employer, and work in a regulated area.
- Work should be undertaken in an isolated system such as a "glove-box". Employees should wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.
- Within regulated areas, the carcinogen should be stored in sealed containers, or enclosed in a closed system, including piping systems, with any sample ports or openings closed while the carcinogens are contained within.
- Open-vessel systems are prohibited.
- Each operation should be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation.
- Exhaust air should not be discharged to regulated areas, non-regulated areas or the external environment unless decontaminated. Clean make-up air should be introduced in sufficient volume to maintain correct operation of the local exhaust system.
- For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
- Except for outdoor systems, regulated areas should be maintained under negative pressure (with respect to non-regulated areas).
- Local exhaust ventilation requires make-up air be supplied in equal volumes to replaced air.
- Laboratory hoods must be designed and maintained so as to draw air inward at an average linear face velocity of 0.76 m/sec with a minimum of 0.64 m/sec. Design and construction of the fume hood requires that insertion of any portion of the employees body, other than hands and arms, be disallowed.

Personal protection



Polycyclic Aromatic Hydrocarbons Standard Mixture

Eye and face protection	<ul style="list-style-type: none"> ➤ Safety glasses with side shields. ➤ Chemical goggles. ➤ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> ➤ Wear chemical protective gloves, e.g. PVC. ➤ Wear safety footwear or safety gumboots, e.g. Rubber <p>NOTE:</p> <ul style="list-style-type: none"> ➤ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ➤ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> - frequency and duration of contact, - chemical resistance of glove material, - glove thickness and - dexterity <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> - When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. - When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. - Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. - Contaminated gloves should be replaced. <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</p> <p>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> - Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. - Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p>
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ➤ Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent] ➤ Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent] ➤ Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely. ➤ Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. ➤ Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
Thermal hazards	Not Available

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	colorless		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available

Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	<p>The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.</p> <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> <p>Inhalation of naphthalene vapour is linked with headache, loss of appetite, nausea, damage to the eyes and kidneys. According to animal testing, long term exposure may cause excessive weakness and increased salivation, weight loss, difficulty breathing, collapse, and evidence of damage to the skin, liver and lungs.</p>
Ingestion	<p>Accidental ingestion of the material may be damaging to the health of the individual.</p> <p>Ingestion of naphthalene and related compounds may produce abdominal cramps with nausea, vomiting, diarrhoea, headache, profuse sweating, listlessness, confusion, and in severe poisonings, coma with or without convulsions. Irritation of the bladder may also occur, producing urgency, painful urination, and the passage of brown or black urine with or without albumin or casts.</p>
Skin Contact	<p>Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.</p> <p>Workers sensitised to naphthalene and related compounds show an inflammation of the skin with scaling and reddening. Some individuals show an allergic reaction.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material.</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>
Eye	<p>Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).</p> <p>Long term exposure to naphthalene has produced clouding of the lens (cataracts) in workers.</p>
Chronic	<p>Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>There is ample evidence that this material can be regarded as being able to cause cancer in humans based on experiments and other information.</p> <p>Based on experiments and other information, there is ample evidence to presume that exposure to this material can cause genetic defects that can be inherited.</p> <p>Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material.</p> <p>Animal testing indicates that inhalation of naphthalene may increase the incidence of respiratory tumours and may aggravate chronic inflammation.</p> <p>Polycyclic aromatic hydrocarbons are found in a number of materials such as coal tar, tobacco smoke, petroleum and air pollution. Some substituted derivatives have been identified as extremely liable to cause cancer, especially that of the lung and genito-urinary tract.</p>

Polycyclic Aromatic Hydrocarbons Standard Mixture	TOXICITY	IRRITATION
	Not Available	Not Available
methylene chloride	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye(rabbit): 162 mg - moderate
	Inhalation (mouse) LC50: 25200 ppm/7hr ^[2]	Eye(rabbit): 500 mg/24hr - mild
	Oral (rat) LD50: 985 mg/kg ^[2]	Skin (rabbit): 100mg/24hr-moderate
		Skin (rabbit): 810 mg/24hr-SEVERE
acenaphthene	TOXICITY	IRRITATION
	Not Available	Not Available

Polycyclic Aromatic Hydrocarbons Standard Mixture

acenaphthylene	TOXICITY	IRRITATION
	Oral (mouse) LD50: 1760 mg/kg ^[2]	Not Available
anthracene	TOXICITY	IRRITATION
	Oral (mouse) LD50: 4900 mg/kg ^[2]	Not Available
benz[a]anthracene	TOXICITY	IRRITATION
	Not Available	Not Available
benz[a]pyrene	TOXICITY	IRRITATION
	Not Available	Skin (mouse): 0.014 mg - mild
benzo[b]fluoranthene	TOXICITY	IRRITATION
	Not Available	Not Available
benzo[ghi]perylene	TOXICITY	IRRITATION
	Not Available	Not Available
benzo[k]fluoranthene	TOXICITY	IRRITATION
	Not Available	Not Available
chrysene	TOXICITY	IRRITATION
	Not Available	Not Available
dibenz[a,h]anthracene	TOXICITY	IRRITATION
	Not Available	Not Available
fluoranthene	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 3180 mg/kg ^[2]	Not Available
	Oral (rat) LD50: 2000 mg/kgd ^[2]	
fluorene	TOXICITY	IRRITATION
	Not Available	Not Available
indeno[1,2,3-cd]pyrene	TOXICITY	IRRITATION
	Not Available	Not Available
naphthalene	TOXICITY	IRRITATION
	dermal (rat) LD50: >2500 mg/kg ^[2]	Eye (rabbit): 100 mg - mild
	Oral (rat) LD50: 490 mg/kg ^[2]	Skin (rabbit): 495 mg (open) - mild
phenanthrene	TOXICITY	IRRITATION
	Oral (mouse) LD50: 700 mg/kgd ^[2]	Not Available
pyrene	TOXICITY	IRRITATION
	Oral (rat) LD50: 2700 mg/kgd ^[2]	Skin (rabbit): 500 mg/24h - mild

Legend:











1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances



METHYLENE CHLORIDE

The material may produce moderate eye irritation leading to inflammation.
 The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of

Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

	vesicles, scaling and thickening of the skin. Inhalation (human) TClO: 500 ppm/ 1 y - I Eye(rabbit): 10 mg - mild
ANTHRACENE	Oral (rat) TDLo: 20000 mg/kg/79w - I Skin (mouse): 0.118 mg - mild Equivocal tumorigen by RTECS criteria
BENZ[A]PYRENE	The following information refers to contact allergens as a group and may not be specific to this product. WARNING: This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS . Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).
BENZO[B]FLUORANTHENE	Lung, kidney, skin tumors and tumors at site of application recorded.
BENZO[K]FLUORANTHENE	Tumours at site of application.
CHRYSENE	Target organs include skin (tumours at site of application).
FLUORANTHENE	Equivocal tumorigen by RTECS criteria. Tumors at site of application recorded.
NAPHTHALENE	The material may be irritating to the eye, with prolonged contact causing inflammation.
PHENANTHRENE	Tumors at site of application. Neoplastic and tumorigenic by RTECS criteria.
PYRENE	Conjunctival irritation, excitement and muscle contraction recorded.
METHYLENE CHLORIDE & DIBENZ[A,H]ANTHRACENE	WARNING: This substance has been classified by the IARC as Group 2A: Probably Carcinogenic to Humans.
ACENAPHTHENE & ACENAPHTHYLENE & ANTHRACENE & FLUORANTHENE & PHENANTHRENE & PYRENE	Asthma-like symptoms may continue for months or even years after exposure to the material ends.
ACENAPHTHENE & BENZO[B]FLUORANTHENE & BENZO[GHI]PERYLENE & BENZO[K]FLUORANTHENE & DIBENZ[A,H]ANTHRACENE & INDENO[1,2,3-CD]PYRENE	No significant acute toxicological data identified in literature search.
ACENAPHTHENE & ANTHRACENE & BENZO[GHI]PERYLENE & FLUORANTHENE & FLUORENE & PHENANTHRENE & PYRENE	The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans.
ANTHRACENE & BENZ[A]PYRENE & NAPHTHALENE & PYRENE	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
ANTHRACENE & BENZO[B]FLUORANTHENE & BENZO[GHI]PERYLENE & BENZO[K]FLUORANTHENE & CHRYSENE & DIBENZ[A,H]ANTHRACENE & FLUORANTHENE & INDENO[1,2,3-CD]PYRENE & PHENANTHRENE & PYRENE	NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.
BENZ[A]ANTHRACENE & BENZO[B]FLUORANTHENE & BENZO[K]FLUORANTHENE & CHRYSENE & INDENO[1,2,3-CD]PYRENE & NAPHTHALENE	WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
BENZ[A]ANTHRACENE & BENZ[A]PYRENE & BENZO[B]FLUORANTHENE & BENZO[K]FLUORANTHENE & DIBENZ[A,H]ANTHRACENE & INDENO[1,2,3-CD]PYRENE	Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen [National Toxicology Program: U.S. Dep.
Acute Toxicity	 Carcinogenicity 
Skin Irritation/Corrosion	 Reproductivity 
Serious Eye Damage/Irritation	 STOT - Single Exposure 
Respiratory or Skin sensitisation	 STOT - Repeated Exposure 
Mutagenicity	 Aspiration Hazard 

Legend:  - Data available but does not fill the criteria for classification
 - Data available to make classification

Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

☞ - Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Polycyclic Aromatic Hydrocarbons Standard Mixture	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

methylene chloride	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	=13.1mg/L	1
	EC50	48	Crustacea	=108.5mg/L	1
	EC50	96	Algae or other aquatic plants	161.874mg/L	3
	EC50	384	Crustacea	10.334mg/L	3
	NOEC	96	Algae or other aquatic plants	56mg/L	4

acenaphthene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.58mg/L	4
	EC50	48	Crustacea	1.275mg/L	4
	EC50	96	Algae or other aquatic plants	0.5mg/L	1
	EC50	384	Crustacea	0.178mg/L	3
	NOEC	768	Fish	0.208-0.226mg/L	1

acenaphthylene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.991mg/L	3
	EC50	96	Algae or other aquatic plants	1.450mg/L	3
	EC50	384	Crustacea	0.249mg/L	3

anthracene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.00127mg/L	4
	EC50	48	Crustacea	0.01119096mg/L	4
	EC50	72	Algae or other aquatic plants	>0.0078mg/L	2
	BCF	48	Fish	1.0mg/L	4
	EC50	24	Crustacea	ca.0.0012mg/L	2
	NOEC	22	Algae or other aquatic plants	0.0015-0.0017mg/L	2

benz[a]anthracene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.083mg/L	3
	EC50	48	Crustacea	0.000958776mg/L	4
	EC50	96	Algae or other aquatic plants	0.087mg/L	3
	BCF	24	Crustacea	0.006mg/L	4
	EC50	48	Crustacea	0.0014815372mg/L	4

benz[a]pyrene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.026mg/L	3
	EC50	48	Crustacea	0.0009815248mg/L	4
	EC50	72	Algae or other aquatic plants	0.005mg/L	4
	BCF	12	Fish	7.51mg/L	4
	EC50	48	Crustacea	0.0016249408mg/L	4
	NOEC	360	Fish	0.00102mg/L	4

benzo[b]fluoranthene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.026mg/L	3
	EC50	96	Algae or other aquatic plants	0.029mg/L	3
	EC50	384	Crustacea	0.011mg/L	3

Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

benzo[ghi]perylene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.008mg/L	3
	EC50	48	Crustacea	0.0001326432mg/L	4
	EC50	96	Algae or other aquatic plants	0.010mg/L	3
	BCF	24	Crustacea	0.0002mg/L	4
	EC50	48	Crustacea	0.0010418018mg/L	4
benzo[k]fluoranthene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	BCF	24	Crustacea	0.0014mg/L	4
	NOEC	144	Fish	0.01mg/L	4
chrysene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.083mg/L	3
	EC50	96	Algae or other aquatic plants	0.087mg/L	3
	BCF	240	Crustacea	0.00136968mg/L	4
	EC50	384	Crustacea	0.027mg/L	3
	NOEC	2016	Fish	0.116331488mg/L	4
dibenz[a,h]anthracene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.008mg/L	3
	EC50	48	Crustacea	0.0005510934mg/L	4
	EC50	96	Algae or other aquatic plants	0.010mg/L	3
	BCF	6	Crustacea	0.00072mg/L	4
	EC50	48	Crustacea	0.001558648mg/L	4
	NOEC	144	Fish	0.01mg/L	4
fluoranthene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.0001mg/L	4
	EC50	48	Crustacea	0.003984522mg/L	4
	EC50	72	Algae or other aquatic plants	0.103mg/L	4
	BCF	672	Crustacea	0.125mg/L	4
	EC10	144	Crustacea	0.0078mg/L	4
	NOEC	744	Crustacea	0.0006mg/L	4
fluorene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.76mg/L	4
	EC50	48	Crustacea	0.212mg/L	4
	EC50	96	Algae or other aquatic plants	1.346mg/L	3
	BCF	576	Crustacea	1.055mg/L	4
	EC50	384	Crustacea	0.238mg/L	3
	NOEC	336	Crustacea	0.0625mg/L	4
indeno[1,2,3-cd]pyrene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
naphthalene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.213mg/L	4
	EC50	48	Crustacea	1.6mg/L	4
	EC50	72	Algae or other aquatic plants	ca.0.4mg/L	1
	BCF	12	Fish	10.2mg/L	4
	EC50	0.05	Crustacea	0.000000085mg/L	4
	NOEC	48	Fish	0.012817mg/L	4
phenanthrene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.234mg/L	4

Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

EC50	48	Crustacea	0.117mg/L	4
EC50	72	Algae or other aquatic plants	0.324mg/L	4
BCF	24	Algae or other aquatic plants	1mg/L	4
EC50	96	Fish	0.049mg/L	4
NOEC	2160	Fish	0.005mg/L	4

pyrene

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.249mg/L	3
EC50	48	Crustacea	0.004327936mg/L	4
EC50	96	Algae or other aquatic plants	0.256mg/L	3
BCF	24	Algae or other aquatic plants	0.5mg/L	4
EC50	24	Crustacea	>=0.003- <=0.03mg/L	2
NOEC	168	Fish	0.0152mg/L	4

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

For naphthalene:

Environmental Fate: Naphthalene may be reach surface water and soil through transportation in water or being carried by air. Most airborne naphthalene is in a vapour form and hence deposition is expected to be slow. A minimal amount of naphthalene emitted to the air is transported to other environmental components mostly by dry deposition. Naphthalene in surface water may volatilize into the atmosphere, depending on environmental conditions. It remains in solution in water, with only small amounts associated with suspended material and benthic sediments. While naphthalene is readily volatilized from aerated soils, it adheres to soils with a high organic content. Adsorption to aquifer material reduces transportation of naphthalene through groundwater, and the presence of nonionic organic compounds such as tetrachloroethene may enhance sorption to materials that contain low carbon content. Bioconcentration of naphthalene is moderate in aquatic organisms. It is readily metabolized by fish, and invertebrates that are placed in pollutant free water rapidly eliminate any traces of the pollutant. While bioaccumulation in the food chain is unlikely, exposure of cows and chickens to naphthalene could lead to naphthalene being present in milk and eggs. While the data on the transport and partitioning of methylnaphthalenes in the environment is limited, the characteristics of these chemicals are similar to naphthalene, so they are expected to behave in a similar manner to naphthalene in the environment, and produce the same effects on aquatic organisms. Biodegradation of naphthalene occurs relatively quickly in aquatic systems. Methylnaphthalenes are biodegraded under aerobic conditions after adaptation. Degradation rates are highest in water constantly polluted with petroleum. Naphthalene biodegradation rates are higher in sediment than in the water column above it. Methylnaphthalenes biodegrades more slowly. Reported half-lives in sediments were 46 weeks for 1-methylnaphthalene and ranged from 14 to 50 weeks for 2-methylnaphthalene. In soils, the potential for biodegradation is an important factor for biological remediation of soil. Studies on biodegradation of PAHs suggest that adsorption to the organic matter significantly reduces the bioavailability for microorganisms, and thus the biodegradability, of PAHs, including naphthalene. Biodegradation is accomplished through the action of aerobic microorganisms and is reduced in anaerobic soil conditions. Naphthalene biodegrades to carbon dioxide in aerobic soils, with salicylate as an intermediate product. Abiotic degradation of naphthalene seldom occurs in soils. As with naphthalene, 1-Methylnaphthalene is easily volatilised from aerated soil, and the biodegradation half-life averages between 1.7 and 2.2 days.

Ecotoxicity: Acute toxicity data on naphthalene for several fish species (freshwater and marine), show 96h LC50 values range from 1.8 to 7.8 mg/L. Comparable results were obtained with other vertebrates (amphibians). From chronic toxicity tests, a precise NOEL is not clearly determined. A NOEC of 0.12 mg/L was observed in a 40 days test on juvenile pink salmon, but 50% mortality at 0.11 mg/L was calculated for trout fry exposed during hatching. Several data are also available for invertebrates, showing 48h EC50 values ranging from 2.1 to 24 mg/L. While chronic data on freshwater invertebrates and algae are questionable, a 50% photosynthesis reduction was observed at 2.8 mg/L in 4 hours experiments. QSAR prediction models give results consistent with experimental short-term data on fish daphnia and algae.

For Polycyclic Aromatic Hydrocarbons (PAH's):

Environmental Fate: A general rule for biodegradation of PAHs is that parent compounds tend to degrade faster than alkylated analogs. Less is known about the biodegradability of resins and asphaltene, but the current knowledge suggests these are not very biodegradable and will persist in the environment for a long time. The more hydrophobic a compound, the greater the partitioning to non-aqueous phases.

Atmospheric Fate: PAHs travel through the atmosphere as a gas or attached to dust particles. They are carried by air currents and deposited by dry or wet (rain, dew, etc.) deposition.

Aquatic Fate: When deposited in water PAHs sink to the bottom of lakes and rivers. Some will move through the soil to contaminate groundwater. PAHs are ubiquitous in the marine environment, occurring at their highest environmental concentrations around urban centres. The availability of organic carbon controls, to a large extent, the partitioning behaviour of PAHs in sediment. Mixed microbial populations in sediment/water systems may degrade some PAHs, with degradation progressively decreasing with increasing molecular weight.

Terrestrial Fate: The rate of degradation is dependent on nutrient content and the bacterial community in soil. PAHs in soils undergo a weathering process such that the lighter chain fractions are removed (primarily by volatilization). Heavier fractions bind to soil organic matter and remain behind in the top soil horizon. As the mixture of PAHs age, bioavailability changes as the fraction remaining bind more tightly. In general, the more soluble a PAH, the higher the uptake by plants while the reverse is true for uptake by earthworms and uptake in the gastrointestinal tract of animals. Ecotoxicity: The primary mode of toxicity for PAHs in soil dwelling terrestrial invertebrates is non-specific non-polar narcosis. The uptake of PAHs by earthworms occurs primarily by direct contact with the soluble phase of soil solution. Microbial degradation of PAHs is a key process in soils. Biodegradation of PAHs may take place over a period of weeks to months. The lipid (fat) phase, of all organisms, contains the highest levels of PAHs. Accumulation of PAHs occurs in all marine organisms, however; there is a wide range in tissue concentrations resulting from variable environmental concentrations, level and time of exposure, and species ability to metabolize these compounds. In fish, bile and liver accumulate the highest levels of PAH and metabolites. In invertebrates, the highest concentrations can be found in the internal organs, such as the liver and pancreas; tissue concentrations appear to follow seasonal cycles which may be related to variations in lipid content or spawning cycles.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
methylene chloride	LOW (Half-life = 56 days)	HIGH (Half-life = 191 days)
acenaphthene	HIGH (Half-life = 204 days)	LOW (Half-life = 0.37 days)
acenaphthylene	MEDIUM (Half-life = 120 days)	LOW (Half-life = 0.05 days)
anthracene	HIGH (Half-life = 920 days)	LOW (Half-life = 0.21 days)
benz[a]anthracene	HIGH (Half-life = 1360 days)	LOW (Half-life = 0.33 days)
benz[a]pyrene	HIGH (Half-life = 1060 days)	LOW (Half-life = 0.18 days)
benzo[b]fluoranthene	HIGH (Half-life = 1220 days)	LOW (Half-life = 0.6 days)
benzo[ghi]perylene	HIGH (Half-life = 1300 days)	LOW (Half-life = 0.13 days)
benzo[k]fluoranthene	HIGH (Half-life = 4280 days)	LOW (Half-life = 0.46 days)
chrysene	HIGH (Half-life = 2000 days)	LOW (Half-life = 0.33 days)

Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

dibenz[a,h]anthracene	HIGH (Half-life = 1880 days)	LOW (Half-life = 0.18 days)
fluoranthene	HIGH (Half-life = 880 days)	LOW (Half-life = 0.84 days)
fluorene	MEDIUM (Half-life = 120 days)	LOW (Half-life = 2.84 days)
indeno[1,2,3-cd]pyrene	HIGH (Half-life = 1460 days)	LOW (Half-life = 0.26 days)
naphthalene	HIGH (Half-life = 258 days)	LOW (Half-life = 1.23 days)
phenanthrene	HIGH (Half-life = 400 days)	LOW (Half-life = 0.84 days)
pyrene	HIGH (Half-life = 3800 days)	LOW (Half-life = 0.33 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
methylene chloride	LOW (BCF = 40)
acenaphthene	LOW (BCF = 387)
acenaphthylene	MEDIUM (BCF = 545)
anthracene	HIGH (BCF = 10500)
benz[a]anthracene	HIGH (LogKOW = 5.76)
benz[a]pyrene	HIGH (LogKOW = 6.13)
benzo[b]fluoranthene	HIGH (LogKOW = 5.78)
benzo[ghi]perylene	HIGH (LogKOW = 6.697)
chrysene	HIGH (LogKOW = 5.81)
dibenz[a,h]anthracene	HIGH (LogKOW = 6.697)
fluoranthene	HIGH (LogKOW = 5.16)
fluorene	MEDIUM (BCF = 830)
naphthalene	HIGH (BCF = 18000)
phenanthrene	MEDIUM (LogKOW = 4.46)
pyrene	HIGH (LogKOW = 4.88)

Mobility in soil

Ingredient	Mobility
methylene chloride	LOW (KOC = 23.74)
acenaphthene	LOW (KOC = 6123)
acenaphthylene	LOW (KOC = 6123)
anthracene	LOW (KOC = 20400)
benz[a]anthracene	LOW (KOC = 231300)
benz[a]pyrene	LOW (KOC = 786800)
benzo[b]fluoranthene	LOW (KOC = 803100)
benzo[ghi]perylene	LOW (KOC = 2676000)
chrysene	LOW (KOC = 236100)
dibenz[a,h]anthracene	LOW (KOC = 2622000)
fluoranthene	LOW (KOC = 70850)
fluorene	LOW (KOC = 11290)
naphthalene	LOW (KOC = 1837)
phenanthrene	LOW (KOC = 20830)
pyrene	LOW (KOC = 69410)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal

- ▶ Containers may still present a chemical hazard/ danger when empty.
- ▶ Return to supplier for reuse/ recycling if possible.

Otherwise:

- ▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- ▶ Reduction
- ▶ Reuse
- ▶ Recycling
- ▶ Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.



Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

- ▶ **DO NOT** allow wash water from cleaning or process equipment to enter drains.
- ▶ It may be necessary to collect all wash water for treatment before disposal.
- ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- ▶ Where in doubt contact the responsible authority.

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	

Land transport (DOT)

UN number	1593				
UN proper shipping name	Dichloromethane				
Transport hazard class(es)	<table border="1"> <tr> <td>Class</td><td>6.1</td></tr> <tr> <td>Subrisk</td><td>Not Applicable</td></tr> </table>	Class	6.1	Subrisk	Not Applicable
Class	6.1				
Subrisk	Not Applicable				
Packing group	III				
Environmental hazard	Not Applicable				
Special precautions for user	<table border="1"> <tr> <td>Hazard Label</td><td>6.1</td></tr> <tr> <td>Special provisions</td><td>IB3, IP8, N36, T7, TP2</td></tr> </table>	Hazard Label	6.1	Special provisions	IB3, IP8, N36, T7, TP2
Hazard Label	6.1				
Special provisions	IB3, IP8, N36, T7, TP2				

Air transport (ICAO-IATA / DGR)

UN number	1593														
UN proper shipping name	Dichloromethane														
Transport hazard class(es)	<table border="1"> <tr> <td>ICAO/IATA Class</td><td>6.1</td></tr> <tr> <td>ICAO / IATA Subrisk</td><td>Not Applicable</td></tr> <tr> <td>ERG Code</td><td>6L</td></tr> </table>	ICAO/IATA Class	6.1	ICAO / IATA Subrisk	Not Applicable	ERG Code	6L								
ICAO/IATA Class	6.1														
ICAO / IATA Subrisk	Not Applicable														
ERG Code	6L														
Packing group	III														
Environmental hazard	Not Applicable														
Special precautions for user	<table border="1"> <tr> <td>Special provisions</td><td>Not Applicable</td></tr> <tr> <td>Cargo Only Packing Instructions</td><td>663</td></tr> <tr> <td>Cargo Only Maximum Qty / Pack</td><td>220 L</td></tr> <tr> <td>Passenger and Cargo Packing Instructions</td><td>655</td></tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td><td>60 L</td></tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td><td>Y642</td></tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td><td>2 L</td></tr> </table>	Special provisions	Not Applicable	Cargo Only Packing Instructions	663	Cargo Only Maximum Qty / Pack	220 L	Passenger and Cargo Packing Instructions	655	Passenger and Cargo Maximum Qty / Pack	60 L	Passenger and Cargo Limited Quantity Packing Instructions	Y642	Passenger and Cargo Limited Maximum Qty / Pack	2 L
Special provisions	Not Applicable														
Cargo Only Packing Instructions	663														
Cargo Only Maximum Qty / Pack	220 L														
Passenger and Cargo Packing Instructions	655														
Passenger and Cargo Maximum Qty / Pack	60 L														
Passenger and Cargo Limited Quantity Packing Instructions	Y642														
Passenger and Cargo Limited Maximum Qty / Pack	2 L														

Sea transport (IMDG-Code / GGVSee)

UN number	1593						
UN proper shipping name	DICHLOROMETHANE						
Transport hazard class(es)	<table border="1"> <tr> <td>IMDG Class</td><td>6.1</td></tr> <tr> <td>IMDG Subrisk</td><td>Not Applicable</td></tr> </table>	IMDG Class	6.1	IMDG Subrisk	Not Applicable		
IMDG Class	6.1						
IMDG Subrisk	Not Applicable						
Packing group	III						
Environmental hazard	Marine Pollutant						
Special precautions for user	<table border="1"> <tr> <td>EMS Number</td><td>F-A, S-A</td></tr> <tr> <td>Special provisions</td><td>Not Applicable</td></tr> <tr> <td>Limited Quantities</td><td>5 L</td></tr> </table>	EMS Number	F-A, S-A	Special provisions	Not Applicable	Limited Quantities	5 L
EMS Number	F-A, S-A						
Special provisions	Not Applicable						
Limited Quantities	5 L						

Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

METHYLENE CHLORIDE(75-09-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - Alaska Limits for Air Contaminants
US - California - Proposition 65 - Priority List for the Development of MADLs for Chemicals Causing Reproductive Toxicity
US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs)
US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)
US - California Permissible Exposure Limits for Chemical Contaminants
US - California Proposition 65 - Carcinogens
US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens
US - Hawaii Air Contaminant Limits
US - Idaho - Acceptable Maximum Peak Concentrations
US - Idaho - Limits for Air Contaminants
US - Massachusetts - Right To Know Listed Chemicals
US - Michigan Exposure Limits for Air Contaminants
US - Minnesota Permissible Exposure Limits (PELs)
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Mutagens
US - Oregon Permissible Exposure Limits (Z-1)
US - Pennsylvania - Hazardous Substance List
US - Rhode Island Hazardous Substance List
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants

US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
US - Washington Permissible exposure limits of air contaminants
US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US - Wyoming Toxic and Hazardous Substances Table Z-2 Acceptable ceiling concentration, Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US National Toxicology Program (NTP) 14th Report Part B.
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Carcinogens Listing
US OSHA Permissible Exposure Levels (PELs) - Table Z1
US OSHA Permissible Exposure Levels (PELs) - Table Z2
US Spacecraft Maximum Allowable Concentrations (SMACs) for Airborne Contaminants
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA New Chemical Exposure Limits (NCEL)

ACENAPHTHENE(83-32-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - Massachusetts - Right To Know Listed Chemicals
US - Pennsylvania - Hazardous Substance List
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
US Clean Air Act - Hazardous Air Pollutants

US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

ACENAPHTHYLENE(208-96-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Massachusetts - Right To Know Listed Chemicals
US - Pennsylvania - Hazardous Substance List
US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - Priority Pollutants

US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

ANTHRACENE(120-12-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - Alaska Limits for Air Contaminants
US - Massachusetts - Right To Know Listed Chemicals
US - Pennsylvania - Hazardous Substance List
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)

US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

BENZ[A]ANTHRACENE(56-55-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - California - Proposition 65 - Priority List for the Development of MADLs for Chemicals Causing Reproductive Toxicity
US - California Proposition 65 - Carcinogens
US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Mutagens
US - Pennsylvania - Hazardous Substance List
US - Rhode Island Hazardous Substance List
US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values

US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US National Toxicology Program (NTP) 14th Report Part B.
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

BENZ[A]PYRENE(50-32-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Polycyclic Aromatic Hydrocarbons Standard Mixture

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

US - Alaska Limits for Air Contaminants
US - California - Proposition 65 - Priority List for the Development of MADLs for Chemicals Causing Reproductive Toxicity
US - California Proposition 65 - Carcinogens
US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens
US - Hawaii Air Contaminant Limits
US - Idaho - Limits for Air Contaminants
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Mutagens
US - Pennsylvania - Hazardous Substance List
US - Rhode Island Hazardous Substance List
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants

BENZO[B]FLUORANTHENE(205-99-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - California - Proposition 65 - Priority List for the Development of MADLs for Chemicals Causing Reproductive Toxicity
US - California Proposition 65 - Carcinogens
US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
US - Pennsylvania - Hazardous Substance List
US - Rhode Island Hazardous Substance List
US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values

BENZO[GHI]PERYLENE(191-24-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - Massachusetts - Right To Know Listed Chemicals
US - Pennsylvania - Hazardous Substance List
US Clean Air Act - Hazardous Air Pollutants

BENZO[K]FLUORANTHENE(207-08-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - California Proposition 65 - Carcinogens
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
US - Pennsylvania - Hazardous Substance List
US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values
US Clean Air Act - Hazardous Air Pollutants

CHRYSENE(218-01-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - Alaska Limits for Air Contaminants
US - California - Proposition 65 - Priority List for the Development of MADLs for Chemicals Causing Reproductive Toxicity
US - California Proposition 65 - Carcinogens
US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens
US - Hawaii Air Contaminant Limits
US - Idaho - Limits for Air Contaminants
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
US - Pennsylvania - Hazardous Substance List
US - Rhode Island Hazardous Substance List
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants

DIBENZ[A,H]ANTHRACENE(53-70-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - California - Proposition 65 - Priority List for the Development of MADLs for Chemicals Causing Reproductive Toxicity
US - California Proposition 65 - Carcinogens
US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Mutagens
US - Pennsylvania - Hazardous Substance List
US - Rhode Island Hazardous Substance List

US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants

US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US National Toxicology Program (NTP) 14th Report Part B.
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US National Toxicology Program (NTP) 14th Report Part B.

US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List

US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US National Toxicology Program (NTP) 14th Report Part B.
US Priority List for the Development of Proposition 65 Safe Harbor Levels - No Significant Risk Levels (NSRLs) for Carcinogens and Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity

US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants

US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values
US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US National Toxicology Program (NTP) 14th Report Part B.
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Polycyclic Aromatic Hydrocarbons Standard Mixture

FLUORANTHENE(206-44-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - Massachusetts - Right To Know Listed Chemicals
US - Pennsylvania - Hazardous Substance List
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
US Clean Air Act - Hazardous Air Pollutants

US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

FLUORENE(86-73-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - Massachusetts - Right To Know Listed Chemicals
US - Pennsylvania - Hazardous Substance List
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
US Clean Air Act - Hazardous Air Pollutants

US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

INDENO[1,2,3-CD]PYRENE(193-39-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - California Proposition 65 - Carcinogens
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
US - Pennsylvania - Hazardous Substance List
US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values
US Clean Air Act - Hazardous Air Pollutants

US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US National Toxicology Program (NTP) 14th Report Part B.
US Priority List for the Development of Proposition 65 Safe Harbor Levels - No Significant Risk Levels (NSRLs) for Carcinogens and Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

NAPHTHALENE(91-20-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - Alaska Limits for Air Contaminants
US - California - Proposition 65 - Priority List for the Development of MADLs for Chemicals Causing Reproductive Toxicity
US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)
US - California Permissible Exposure Limits for Chemical Contaminants
US - California Proposition 65 - Carcinogens
US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens
US - Hawaii Air Contaminant Limits
US - Idaho - Limits for Air Contaminants
US - Massachusetts - Right To Know Listed Chemicals
US - Michigan Exposure Limits for Air Contaminants
US - Minnesota Permissible Exposure Limits (PELs)
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
US - Oregon Permissible Exposure Limits (Z-1)
US - Pennsylvania - Hazardous Substance List
US - Rhode Island Hazardous Substance List
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants

US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
US - Washington Permissible exposure limits of air contaminants
US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US ACGIH Threshold Limit Values (TLV)
US ACGIH Threshold Limit Values (TLV) - Carcinogens
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - List of Hazardous Substances
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US National Toxicology Program (NTP) 14th Report Part B.
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Levels (PELs) - Table Z1
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

PHENANTHRENE(85-01-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - Alaska Limits for Air Contaminants
US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)
US - California Permissible Exposure Limits for Chemical Contaminants
US - Hawaii Air Contaminant Limits
US - Massachusetts - Right To Know Listed Chemicals
US - Michigan Exposure Limits for Air Contaminants
US - Oregon Permissible Exposure Limits (Z-1)
US - Pennsylvania - Hazardous Substance List

US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
US - Washington Permissible exposure limits of air contaminants
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

PYRENE(129-00-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
US - Alaska Limits for Air Contaminants
US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)
US - California Permissible Exposure Limits for Chemical Contaminants
US - Hawaii Air Contaminant Limits
US - Massachusetts - Right To Know Listed Chemicals
US - Michigan Exposure Limits for Air Contaminants
US - Oregon Permissible Exposure Limits (Z-1)
US - Pennsylvania - Hazardous Substance List
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants

US - Washington Permissible exposure limits of air contaminants
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US Clean Air Act - Hazardous Air Pollutants
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants
US EPA Carcinogens Listing
US EPCRA Section 313 Chemical List
US SARA Section 302 Extremely Hazardous Substances
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Polycyclic Aromatic Hydrocarbons Standard Mixture

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SECTION 311/312 HAZARD CATEGORIES

Immediate (acute) health hazard	Yes
Delayed (chronic) health hazard	Yes
Fire hazard	No
Pressure hazard	No
Reactivity hazard	No

US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
Dichloromethane	1000	454
Acenaphthene	100	45.4
Acenaphthylene	5000	2270
Anthracene	5000	2270
Benzo[a]anthracene	10	4.54
Benzo[a]pyrene	1	0.454
Benzo[b]fluoranthene	1	0.454
Benzo[ghi]perylene	5000	2270
Benzo[k]fluoranthene	5000	2270
Chrysene	100	45.4
Dibenz[a,h]anthracene	1	0.454
Fluoranthene	100	45.4
Fluorene	5000	2270
Indeno[1,2,3-cd]pyrene	100	45.4
Naphthalene	100	45.4
Phenanthrene	5000	2270
Pyrene	5000	2270

State Regulations

US. CALIFORNIA PROPOSITION 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm

US - CALIFORNIA PREPOSITION 65 - CARCINOGENS & REPRODUCTIVE TOXICITY (CRT): LISTED SUBSTANCE

Dichloromethane (Methylene chloride), Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Chrysene, Dibenz[a,h]anthracene, Indeno[1,2,3-cd]pyrene, Naphthalene
 Listed

National Inventory	Status
Australia - AICS	Y
Canada - DSL	N (fluoranthene; benzo[a]anthracene; dibenz[a,h]anthracene; indeno[1,2,3-cd]pyrene; benzo[k]fluoranthene; acenaphthylene; benzo[b]fluoranthene; benzo[ghi]perylene)
Canada - NDSL	N (benzo[a]pyrene; acenaphthene; pyrene; naphthalene; chrysene; phenanthrene; methylene chloride; fluorene; benzo[k]fluoranthene; benzo[b]fluoranthene; benzo[ghi]perylene; anthracene)
China - IECSC	N (chrysene; indeno[1,2,3-cd]pyrene; benzo[k]fluoranthene; acenaphthylene; benzo[b]fluoranthene; benzo[ghi]perylene)
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (benzo[a]pyrene; pyrene; fluoranthene; chrysene; benzo[a]anthracene; phenanthrene; dibenz[a,h]anthracene; indeno[1,2,3-cd]pyrene; benzo[k]fluoranthene; acenaphthylene; benzo[b]fluoranthene; benzo[ghi]perylene)
Korea - KECI	N (fluoranthene; benzo[a]anthracene; dibenz[a,h]anthracene; indeno[1,2,3-cd]pyrene; benzo[k]fluoranthene; acenaphthylene; benzo[b]fluoranthene; benzo[ghi]perylene)
New Zealand - NZIoC	Y
Philippines - PICCS	N (fluoranthene; chrysene; benzo[a]anthracene; dibenz[a,h]anthracene; indeno[1,2,3-cd]pyrene; benzo[k]fluoranthene; benzo[b]fluoranthene; benzo[ghi]perylene)
USA - TSCA	N (benzo[k]fluoranthene; benzo[b]fluoranthene; benzo[ghi]perylene)
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
 The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC — TWA: Permissible Concentration-Time Weighted Average

Continued...

Polycyclic Aromatic Hydrocarbons Standard Mixture

PC — STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL: No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

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TEL (+61 3) 9572 4700.

Attachment F
Daily Pre-Job Safety Briefing Form



Daily Pre-Job Safety Briefing

Project Name: _____ Project Number: _____
Work Location: _____ Date: _____
Tasks Performed: _____ Time: _____ AM _____ PM
Client Name: _____ Submitted By: _____

Health and Safety Plan Available Onsite: Yes ☐ No ☐ Health and Safety Plan Location: _____
Emergency Facility(s): _____ Number(s): _____
Physical Address: _____
First Aid/CPR Persons: _____

For Emergencies Dial 911/For Non-Emergencies Dial WorkCare (888) 449-7787

Personal Protective Equipment Required		Procedures/Programs Required		Additional Considerations	
	Yes	No	Yes	No	
Fall Protection	<input type="checkbox"/>	<input type="checkbox"/>	Hot Work	<input type="checkbox"/>	Work Procedures: <input type="checkbox"/> Isolation of equipment
body harness, lifelines, barricades, other (specify)	<input type="checkbox"/>	<input type="checkbox"/>	LOTO/Energy Control	<input type="checkbox"/>	<input type="checkbox"/> Check for potential <input type="checkbox"/> Adequate grounding
Eye/Face	<input type="checkbox"/>	<input type="checkbox"/>	Trenching/Excavation	<input type="checkbox"/>	<input type="checkbox"/> Vehicle grounds <input type="checkbox"/> Working clearances
goggles, face shield, hood, other (specify)	<input type="checkbox"/>	<input type="checkbox"/>	Signs/Barricades	<input type="checkbox"/>	<input type="checkbox"/> Dig Safe/CBYD <input type="checkbox"/> E-911 Protocol
Respirator	<input type="checkbox"/>	<input type="checkbox"/>	Confined Space	<input type="checkbox"/>	People: <input type="checkbox"/> Worker fatigue <input type="checkbox"/> Other work groups
SCBA, supplied air, HEPA, dust, other (specify)	<input type="checkbox"/>	<input type="checkbox"/>	Cranes/Critical Lifts	<input type="checkbox"/>	<input type="checkbox"/> Public safety <input type="checkbox"/> Pedestrian control <input type="checkbox"/> Experience
Foot Protection	<input type="checkbox"/>	<input type="checkbox"/>	Line Breaking/Hot Tap	<input type="checkbox"/>	<input type="checkbox"/> Traffic control <input type="checkbox"/> Other utilities <input type="checkbox"/> Spec. Training
safety toe, EH rated, rubber boots, other (specify)	<input type="checkbox"/>	<input type="checkbox"/>	Scaffolds/Aerial Lifts	<input type="checkbox"/>	Tools/Equipment: <input type="checkbox"/> Adequate cover-up
Hand Protection	<input type="checkbox"/>	<input type="checkbox"/>	System Testing/ Grounding	<input type="checkbox"/>	<input type="checkbox"/> Live line tools <input type="checkbox"/> Portable Grounds
leather, cut resistant, chemical, EH, other (specify)	<input type="checkbox"/>	<input type="checkbox"/>	Employee Certification/Training Required	<input type="checkbox"/>	<input type="checkbox"/> Inspection of tools/equipment
Head Protection	<input type="checkbox"/>	<input type="checkbox"/>	Crane Operator	<input type="checkbox"/>	<input type="checkbox"/> Specialized tools/equipment
hard hat, helmet, electrical hazard, other (specify)	<input type="checkbox"/>	<input type="checkbox"/>	Forklift Operator	<input type="checkbox"/>	<input type="checkbox"/> Correct tool/equipment for the job
Clothing	<input type="checkbox"/>	<input type="checkbox"/>	Mobile Equipment Operator	<input type="checkbox"/>	Special Precautions: <input type="checkbox"/> Adjacent structures
coveralls, welding, sleeves, rain, FR, reflective vest, chemical, other (specify)	<input type="checkbox"/>	<input type="checkbox"/>	Competent Person	<input type="checkbox"/>	<input type="checkbox"/> Condition of structures <input type="checkbox"/> Weather conditions
Hearing Protection	<input type="checkbox"/>	<input type="checkbox"/>	OSHA 10/30	<input type="checkbox"/>	<input type="checkbox"/> Lighting conditions <input type="checkbox"/> Terrain <input type="checkbox"/> Water bodies
	<input type="checkbox"/>	<input type="checkbox"/>	HAZWOPER	<input type="checkbox"/>	<input type="checkbox"/> Spills and leaks <input type="checkbox"/> Environmental <input type="checkbox"/> Cultural
	<input type="checkbox"/>	<input type="checkbox"/>	Clearance/Tagging Authority	<input type="checkbox"/>	Other: _____

If Conditions CHANGE...Stop Work, Review and Revise the Plan!!

Rev. 001

Attachment G
Incident Reporting Forms



TRC Incident Reporting Guidelines

Incident Response:

1. For life threatening injuries and medical emergencies call 911 or go to the closest emergency room.
2. An injured worker must report an injury to their supervisor immediately.
3. Supervisor is required to complete The TRC Incident Report Form within 24 hours of the reported accident and forward to Bill Russell at Sargent & Associates with a copy to Mike Glenn.

Bill Russell – Sargent & Associates

Office: (978) 256-7459; Fax: (978) 256-4941

bill@sargentandassociates.com

Mike Glenn, National Safety Director

Office: (949) 727-7347; Mobile: (949) 697-7418

mglenn@trcsolutions.com

4. WorkCare can provide assistance in providing first aid advice and directing an injured worker to non-emergency medical care. WorkCare is a service that provides 24/7 access to an Occupational Healthcare physician or clinician.

WorkCare Incident Intervention

(888) 449-7787

Return to Work:

1. The injured worker is responsible for providing the Supervisor with a copy of the doctor's note detailing the injury and "return to work" status within 24 hours of the doctor's visit. The supervisor must email or fax the completed TRC Incident Report and Doctor's notes to Sargent & Associates.
2. Sargent & Associates will contact the injured worker and the Supervisor to confirm the facts surrounding the injury.
3. Sargent & Associates will report the injury to the workers' compensation insurance carrier, Zurich.



4. Zurich may contact the injured worker and supervisor to conduct an accident investigation.
5. Sargent & Associates will maintain communication with all parties in order to monitor the medical treatment, and the injured worker's return to work status. They will act as liaison between the injured worker, TRC, and Zurich.
6. Sargent & Associates will work with TRC's Health & Safety, Human Resources, and/or Supervisors to determine if modified duty work is an option, until the injured worker is able to return to full duty work activities.

Incident Investigation:

1. All incidents that result in injuries that require reporting for OSHA recordkeeping purposes and all high potential first aid and near miss events require an incident investigation.
2. The Supervisor with assistance from the National Safety Director and/or Safety Coordinator, must complete the incident investigation report/contributing cause analysis within 7 days of the incident and must develop a corrective action plan within 14 days of the incident.

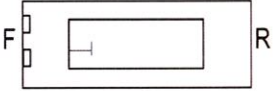


AUTO INCIDENT REPORT

TRC DRIVER INFORMATION:

Driver's Name: _____ Driver's Phone: () _____
Company Name: _____ Company Location: _____
Supervisor's Name: _____ Supervisors Phone: () _____
Project Name: _____ Client Name: _____
Driver's Date of Birth (MM/DD/YY): _____ Driver's License #: _____ State: _____

TRC VEHICLE INFORMATION (V-1):

Year/Make/Model of Vehicle: _____
License Plate #: _____ Vehicle ID # (VIN): _____
Circle Point of Contact:  Was Vehicle Drivable? ☐ Yes ☐ No
Personal: ☐ Yes Rental: ☐ Yes Fleet: ☐ Yes
Rental Company _____

INCIDENT INFORMATION:

Date of Incident: _____ Time of Incident: _____ A.M. _____ P.M. Photos Taken: ☐ Yes ☐ No
Location of Incident: _____ City: _____
Were The Authorities Contacted? Police: ☐ Yes ☐ No Ambulance: ☐ Yes ☐ No Fire: ☐ Yes ☐ No
Name of Police Dept: _____ Case #: _____ Officer Name: _____
Were Citations Issued? ☐ Yes ☐ No If Yes, To Whom? _____
Citation Number: _____
Were There Any Witnesses? ☐ Yes ☐ No If Yes, Please Provide Name, Address and Phone Below:
Witness Name: _____ Witness Phone: () _____
Witness Address: _____
Traffic Conditions (i.e., heavy, light): _____ Weather Conditions (i.e., dry, wet, ice, fog): _____
Was the TRC Driver Injured? ☐ Yes ☐ No Was Medical Treatment Received? ☐ Yes ☐ No
Describe Injuries: _____
Describe Damage to Property Other Than Motor Vehicles (i.e., guardrails, mailboxes, etc.): _____



AUTO INCIDENT REPORT

OTHER DRIVER & VEHICLE INFORMATION (V-2):

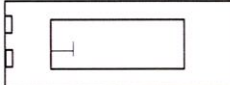
Driver's Name: _____ Driver's Phone: () _____

Driver's Address: _____

Owner's Name (If different than driver): _____ Owner's Phone: () _____

Owner's Address: _____

Year/Make/Model of Vehicle: _____ License Plate #: _____ State: _____

Circle Point of Contact: F  R Was Vehicle Drivable? ☐ Yes ☐ No

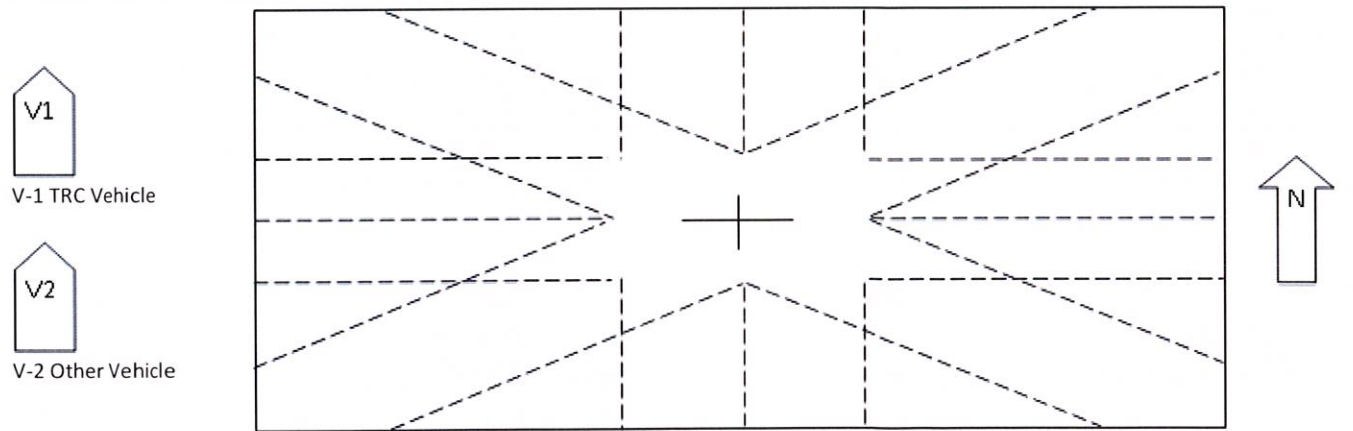
Insurance Company Name: _____ Policy Number: _____

Insurance Company Phone: () _____ Number of Passengers in Vehicle: _____

List Persons Injured: _____

Were Any Other Vehicles Involved in Incident? ☐ Yes ☐ No If yes, provide details below: _____

PLEASE DESCRIBE THE INCIDENT AND COMPLETE THE DIAGRAM BELOW. Be sure to indicate as many details as possible (i.e., How many lanes in each direction; Were there any turn lanes; What kind of traffic controls were there – light, stop sign, yield sign, Positions of vehicles on impact).



Completed By: _____ Signature: _____



TRC Incident Report Form

(To be completed immediately after an Injury, Illness, Incident, Accident or Significant Near Miss by Employee's Supervisor and Employee involved)

Incident Category	
<input type="checkbox"/> Employee Injury/Illness	<input type="checkbox"/> Near Miss/Loss
<input type="checkbox"/> Property Damage	<input type="checkbox"/> Vehicle Accident
<input type="checkbox"/> Fire	<input type="checkbox"/> Other: Specify
1 Incident Location:	
2 Site Identification/Project No.:	
3 Site Address:	
4 Date Incident Occurred:	
5 Time Incident Occurred:	
6 Date Incident Reported to Supervisor:	
7 Date Report Completed:	
8 Was WorkCare Contacted?	<input type="checkbox"/> Yes <input type="checkbox"/> No
9 Client:	

TRC Employee Information	
10 Name:	
11 Address:	
12 Employee Phone:	
13 Title or Occupation:	
14 Sector/Practice:	
15 Supervisor Name/Phone:	

TRC Employee Information (to be completed by Worker's Compensation Claims Administrator)	
16 Employee Date of Birth:	
17 Employee Social Security Number:	
18 Employee Marital Status:	<input type="checkbox"/> Married <input type="checkbox"/> Single
19 Number of Dependant under the age of 18:	
20 Date of Hire:	
21 Rate of Pay:	Hours per week:

Type of Employee Injury or Illness (To be determined by Safety Director)	
22 <input type="checkbox"/> First Aid Only	20 <input type="checkbox"/> Extended Time Away From Work (3 days or more)
23 <input type="checkbox"/> Medical Treatment Only	21 <input type="checkbox"/> Fatality
24 <input type="checkbox"/> Restricted Work-case	22 <input type="checkbox"/> Other (specify):
25 <input type="checkbox"/> Lost Workday	
26 Estimated Number of Days on Restricted Work:	
27 Estimated Number of Days Away from Work:	

Employee Injury or Illness Description	
28 Describe the Injury or Illness:	
29 First Aid/Medical Treatment Administered:	
30 Name of Doctor's Office, Clinic, or Hospital: Concentra	
31 Address and Phone Number:	

Incident Description	
32 Equipment Involved:	
33 Site Description:	
34 What task was being performed at time of incident?	
35 Describe Incident in Detail :	
36 Conditions at time of Incident: (weather, lighting, etc.):	
37 Motor Vehicle Accident:	
38 TRC Vehicle ID:	

39	Year/Make/Model:	
	<input type="checkbox"/> DOT Regulated Vehicle <input type="checkbox"/> Towed From Scene <input type="checkbox"/> Airbag Deployed <input type="checkbox"/> Seatbelt in Use <input type="checkbox"/> TRC Fleet <input type="checkbox"/> Rental <input type="checkbox"/> Personal Vehicle	
40	Other Vehicle License Plate	
41	Other Vehicle Year/Make/Model	
42	Other Vehicle Driver Name	
43	Other Vehicle Year/Make/Model	
44	Other Injured Parties <input type="checkbox"/> Yes <input type="checkbox"/> No	
43	Description of other injuries:	

Subcontractor Involvement / Description of Incident	
44	Subcontractor Involved: <input type="checkbox"/> Yes <input type="checkbox"/> No
45	Name of Company:
46	Address:
47	Contact Name and Phone Number:
48	Subcontractor Description of Incident:

Witness Involvement / Description of Incident	
49	Witnesses to Incident: <input type="checkbox"/> Yes <input type="checkbox"/> No
50	Name(s) and Address(s):
51	Phone Number(s):
52	Witness Description of Incident:

Personal Protective Equipment (PPE)	
53	List PPE required to complete the task: (glasses, gloves, shoes, hard hat, respirator, hearing protection, etc.)
54	Was the employee using the proper PPE at the time of the Incident?

Immediate Corrective Actions	
55	Describe the immediate corrective actions taken:
56	Immediate Supervisor: Signature: Date:
57	Employee: Signature: Date:

Supervisor's Post-Incident Review and Recommendations	
Safety Violation <input type="checkbox"/> Yes <input type="checkbox"/> No	
58	State the company safety rule, OSHA regulation, or specific training that was violated:
59	Describe the training the employee received to prevent this violation:

#	Root Cause Factors (RCF)
1	Lack of skill or knowledge
2	In the past, did not follow procedures or acceptable practices and no incident occurred (injury, product quality incident, equipment damage, regulatory assessment or production delay)
3	Doing the job according to procedures or acceptable practices takes more time/effort
4	Short-cutting procedures or acceptable practices are positively reinforced or tolerated
5	Lack of or inadequate operational procedures
6	Inadequate communication of expectations regarding procedures or acceptable practices
7	Inadequate tools or equipment (available, operable and safely maintained, proper task and workplace design)
8	External factors

60	Root Cause(s)	Identified Root Cause(s):							
		#1	#2	#3	#4	#5	#6	#7	#8
A		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

61	Conclusion: Why did the Incident Occur?						
62	Item No.	RCF No.	Recommended Corrective Action(s) How to Prevent Incident from Reoccurring	Responsible Person	Due Date	Completed (date)	Verified/Validated (date)

Supervisor: _____ Signature: _____ Date: _____
TRC Safety Director: _____ Signature: _____ Date: _____

Attachment H
Observation Documentation Form

TRC SAFETY OBSERVATION FORM

Revised January 2014

Location/Project Name: _____		Date: _____	
Observer Name: _____		Time: _____	
Observee Name: _____			
Task Observed			
Description of Task Observed and Background Information			
Positive Comments			
Conclusions / Why the Questionable Items Occurred?			
Feedback Session Conducted By: _____		Date: _____	
Name of Observee's Supervisor: _____		Time: _____	
At-Risk Observations/Root Cause Analysis			
Personal Factor: (1) Lack of skill or knowledge (2) Correct way takes more time/requires more effort (3) Shortcutting standard procedures is rewarded or appreciated (4) In past, did not follow procedures or acceptable practices and no incident occurred		Job Factor: (5) Lack of or inadequate operational procedures or work standards (6) Inadequate communication of expectations or work standards (7) Inadequate tools or equipment	
At-Risk Observation #	Root Cause Analysis #	Solution(s) To Prevent Potential Incident from Occurring	Person Responsible
			Agreed Due Date
			Date Completed
Results of Verification (were solutions done?) and Validation (were solutions effective?)			
Reviewed by (PM/Supervisor): _____		Date: _____	
Approved by (Practice Safety Leader): _____		Date: _____	

TRC SAFETY OBSERVATION FORM

Revised January 2014

PERSONAL PROTECTIVE EQUIPMENT	Safe	At-Risk	Comments
1. Hearing Protection (e.g., Ear Plugs)			
2. Head Protection (e.g., Hard Hat)			
3. ANSI Rated Eye Protection (e.g., Safety Glasses)			
4. Hand Protection (e.g., Kevlar Gloves)			
5. Foot Protection (e.g., Safety Shoes)			
6. Respiratory Protection			
7. Fall Protection Inspected (e.g., Harness)			
8. ANSI Rated Reflective Vest/High Visibility Clothing			
9. Other (Specify)			
BODY USE AND POSITIONING	Safe	At-Risk	Comments
10. Correct Body Use and Positioning When Lifting/Pushing/Pulling			
11. Pinch Points/Moving Equipment - Hands/Body Clear			
12. Mounts/Dismounts Using 3-Points of Contact			
13. Other (Specify)			
WORK ENVIRONMENT	Safe	At-Risk	Comments
14. Work/Walk Surface Free of Obstructions (e.g., Tripping Hazards)			
15. Housekeeping/Storage			
16. Defined and Secured (e.g., warning devices, barricades, cones, flags)			
17. Suspended Load, Swing Radius & Lift Area is Barricaded			
18. Safety Shutdown Devices			
19. Proper Storage & Labeling /Disposal of Sample & Waste Materials			
20. Cylinders Stored Upright, Secured, & Caps in Place			
21. Manhole/vault Inspected for Hazards			
22. Other (Specify)			
OPERATING PROCEDURES	Safe	At-Risk	Comments
23. Job Planning (HASP reviewed, JSAs, etc.)			
24. Fire Extinguishers Accessible and Inspections Current			
25. Work Permit/Authorization to Work (Hot, Cold, LOTO, Confined Space)			
26. JSA Reviewed & Followed			
27. Hazard Assessment - Hazard Hunt			
28. Interfaces with Other Functions (awareness with other personnel on site)			
29. Operators Looking Behind Prior to Backing Up			
30. Operators Wearing Seat Belts While Operating Equipment			
31. Subsurface Structures Identified			
32. Proper Trench Protective Equipment in Place			
33. Adequate Egress Is Available for Excavation & Trench (within 25 ft. if depth is <4 ft.)			
34. All Materials Set Back at Least 2 Feet From Edge of Trench/Excavation			
35. Other (Specify)			
TOOLS/EQUIPMENT	Safe	At-Risk	Comments
36. Hand Tools (Proper Equipment Selection, Condition, and Use)			
37. Power Tools (Proper Equipment Selection, Condition, and Use)			
38. Equipment, Including Heavy (Proper Equipment Selection, Condition, and Use)			
39. Hoses Inspected			
40. Required Monitoring Equipment Calibrated & Used			
41. Ladders Set up Correctly & Inspected			
42. Right Tools for the Job are Available and in Good Condition - No Fixed Open Blade Knives (FOBKs)			
43. Other (Specify)			
Total #	0	0	

Attachment I
Safe Catch Report



"Safe Catch" Report

A "Safe Catch" is a potential hazard or incident that has not resulted in any personal injury. Unsafe working conditions, unsafe employee behaviors, improper use of equipment or use of malfunctioning equipment have the potential to cause work related injuries. It is everyone's responsibility to report and/or correct these potential incidents immediately. Please complete this form as a means to report these "Good Catch" situations and submit to your local OSC Representative and Mike Glenn, National Safety Director.

Employee Name:		Date:	
Incident Location:		Office:	
Project:		Practice:	
Conditions			
Please check all appropriate conditions:			
<input type="checkbox"/> Unsafe Act	<input type="checkbox"/> Unsafe Condition	<input type="checkbox"/> Unsafe Equipment	<input type="checkbox"/> Unsafe Use of Equipment
Description of Incident or Potential Hazard:			
Task Performed at Time of Incident:			
Causes (Primary and Contributing):			
Corrective Action(s) Taken (remove the hazard, replace, repair, or retrain):			
Employee Signature:		Date Completed:	

Our Mission: To reduce the frequency of incidents by applying local lessons learned globally.

If you have any questions about this report or would like additional information, please reference Compliance Program [CP019—TRC Incident Response and Lessons Learned Program](#), located on TRCNET or contact Mike Glenn, National Safety Director at mglenn@trcsolutions.com.